

REMARKS

This amendment is responsive to the non-final Office Action of March 30, 2009. Reconsideration and allowance of **claims 2-6, 12, and 14-22 and 24-28** are requested.

The Office Action

Claim 24 was object to due to a minor informality.

Claims 2-6, 20-22, and 24-26 were rejected under 35 U.S.C. § 112, first paragraph.

Claims 2-6, 12, 14-22, and 24-26 were rejected under 35 U.S.C. § 103(b) over Seely et al. (US 2003/0117296) in view of Mika et al. (US 2001/0031925).

The Present Application

The present application is directed to device and method of automatically displaying medical measurement data, in which a computer receives the medical measurement data, automatically, in real time, converts the received measurement data into data for histograms. During the conversion, a cumulative curve is generated indicative of the medical measurement data. The cumulative curves combined with the histograms are outputted as picture signals.

The above description of the present application is presented to the Examiner as background information to assist the Examiner in understanding the application. The above description is not used to limit the claims in any way.

The References of Record

Seely et al. is directed to method and apparatus for providing continuous analysis and display of the variability of multiple patient parameters monitored by multiple bedside monitors for each patient. Each monitored patient parameter is measured in real-time. Data artifacts are removed, and variability analysis is performed based upon a selected period of observation. Variability analysis yields variability of the patient parameters, which represents a degree to which the patient parameters fluctuate over time.

Mika et al. discloses an apparatus and method for obtaining information from a patient's heart data useful for on-line setting of the parameters of a detection

time window in an excitable tissue control device. The device is operated under a plurality of different cardiac conditions to obtain a plurality of different histogram data sets. Each histogram data set represents a cumulative time distribution histogram of cardiac depolarization events. A cumulative curve is generated from the histogram data representing a cardiac cycle length.

Claims Objections

Claim 24 has been amended to address the Examiner's objection.

35 U.S.C. § 112, 1st Paragraph

The Office Action asserts that **claims 2-6 and 20-22** fails to describe the limitation "converts in real time the received measurement data into data for a histogram including a continuously updated series of histogram values including a current histogram value and a plurality of preceding histogram values are generated." It is respectfully submitted that such a limitation is described in the specification. More specifically, page 4 lines 14-23 and a page 7 lines 7-13 discloses a computer receiving measurement data. The measurement data is then converted into data for use in a histogram. The data for the histogram includes both a current histogram value and a plurality of preceding histogram values. The current histogram value represents a current value of the measurement data that can be compared to the preceding histogram values which represent past values of the measurement data.

The Office Action asserts that **claims 24-26** fails to describe the limitation the histogram and the cumulative curve are displayed superimposed with common axes and scales and that the cumulative curve includes the sum of the medical measurement values. It is respectfully submitted that such a limitation is described in the specification. See, for example, Fig. 1 which shows a display of the histogram 12 and the cumulative curve 14 displayed with common vertical and horizontal axes. More specifically, page 4 lines 14-29 disclose that the cumulative curve is superimposed on the histogram columns, is the sum of the columns, and interprets both the histogram columns and the cumulative curve using the same axes with the same scales. The readout in Fig. 1 and this portion of the specification disclose the histogram and the cumulative curve sharing a common x-axis depicting a range of medical measured data and a y-axis depicting the relative time of the measurements. The bin is the width of an individual histogram value shown as a column in Fig. 1

(Pg. 4 lines 16-21). The cumulative curve is, at every point, the sum of all the previous bins (Pg 4 lines 27-28). See also Fig. 4 and the explanation of cursor point 28 on Pg. 6, lines 2-8. Note too Fig. 2 and Pg. 5, lines 15-22, which described the combined cumulative curve.

**The Claims Distinguish Patentably
Over the References of Record**

Claims 2-6, 12, 14-22, and 24-26 are patentable over Seely et al. (in view of Mika et al. The rejections are hereby traversed.

More specifically, regarding **claim 5**, Seely et al. does not disclose the limitation outputs the cumulative curve combined with the histograms as picture signals. Seely et al. disclose measurement data being converted into data for histogram which is then outputted to a display. The Examiner acknowledges in the Office Action that Seely et al. does not disclose or fairly suggest outputting a cumulative curve, much less outputting the cumulative curve combined with the histograms as picture signals. The Office Action asserts that Mika et al. teaches this limitation in Fig. 9 which discloses a schematic graph illustrating a cumulative distribution of cardiac cycle length. The graph is a typical length cumulative distribution curve in which the horizontal axis represents a cycle length and the vertical axis represents a number of cardiac depolarization events. Mika et al. discloses generating a cumulative curve from the histogram data of cardiac depolarization events representing a cardiac cycle length. Neither Seely et al., Mika et al., nor the combination teach or fairly suggest combining histograms and a cumulative curve as picture output signals. There is no evidence or suggestions in Seely et al. or Mike at al. of combining histograms and a cumulative curve as output picture signals, as advanced by the Examiner, except from using Applicant's claims as a template through a hindsight reconstruction of the Applicant's claims

Accordingly, it is submitted that **claim 5 and claims 2-4, 6, 20-22, and 27** distinguish patentably and unobviously over the references of record.

Claim 20 calls for displaying the histogram with the cumulative curve superimposed with the histogram and the cumulative curve having common axes and common scales. Neither Seely et al., Mika et al., nor the combination thereof disclose, or suggest, superimposing the histogram with the cumulative curve.

Claim 12 calls for controlling the display device to display the cumulative curve superimposed on the histogram. Neither Seely et al. nor Mika et al. nor the combination teach for fairly suggest displaying the cumulative curve superimposed on the histogram on a display.

Accordingly, it is submitted that **claim 12 and claim 24** dependent therefrom distinguish patentably and unobviously over the references of record.

As per **claim 15**, Seely et al., Mika et al., nor the combination teach or fairly suggest displaying means for visually displaying the cumulative curve concurrently with the histogram data as the medical measurement data is received.

Accordingly, it is submitted that **claim 15 and claims 14, 16-19, 25, 26, and 28** dependent therefrom distinguish patentably and unobviously over the references of record.

Claim 22 calls for the limitation outputs the cumulative curve superimposed on the histogram as picture signals. Neither Seely et al., Mika et al., nor the combination teach or fairly suggest superimposing a histogram and a cumulative curve as picture output signals.

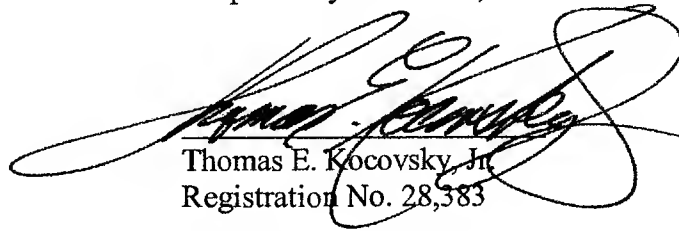
Accordingly, it is submitted that **claim 22** patentably and unobviously over the references of record.

CONCLUSION

For the reasons set forth above, it is submitted that **claims 2-6, 12, and 14-22 and 24-28** (all claims) distinguish patentably over the references of record and meet all statutory requirements. An early allowance of all claims is requested.

In the event the Examiner considers personal contact advantageous to the disposition of this case, the Examiner is requested to telephone Thomas Kocovsky at 216.363.9000.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Thomas E. Kocovsky, Jr.", is written over a horizontal line. The signature is stylized with large, flowing loops.

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